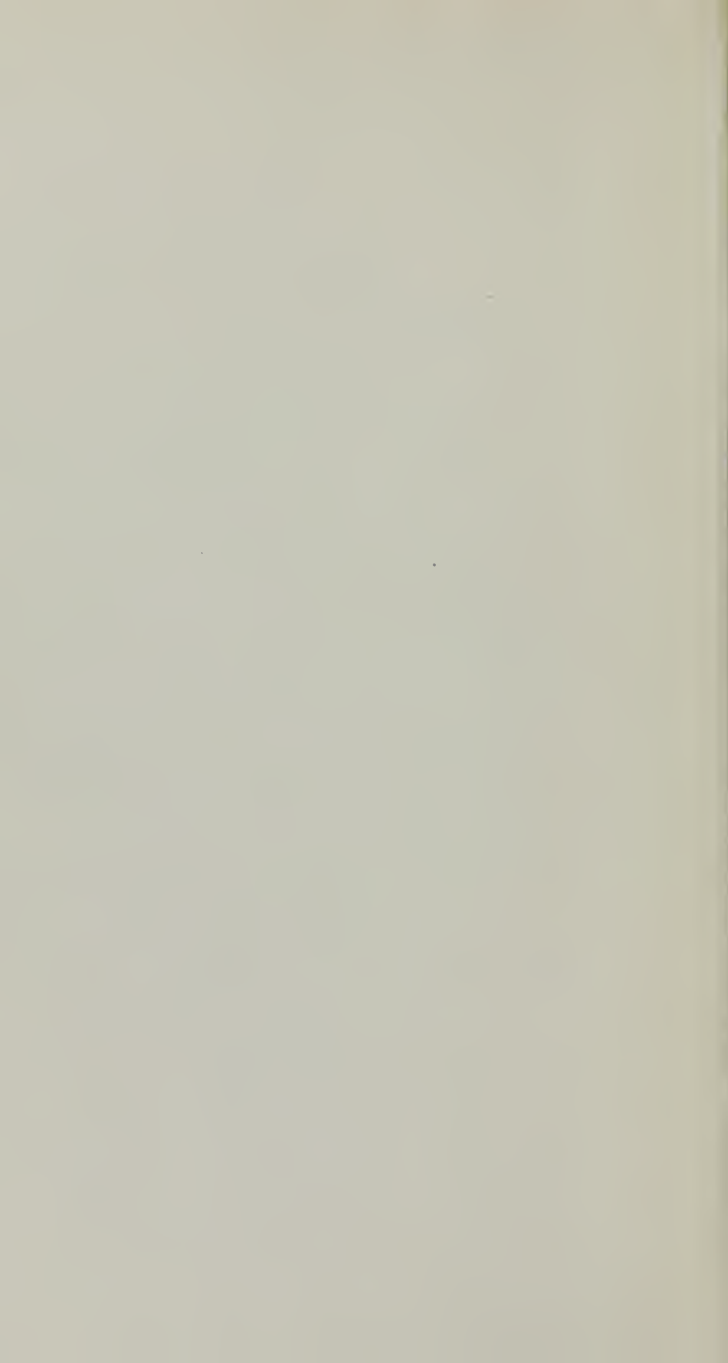


QTA
D911e
1838



*Evils of violating the Laws of Health, and the
Remedy.*

AN

A D D R E S S ,

DELIVERED BEFORE THE

AMERICAN PHYSIOLOGICAL SOCIETY,

AT THEIR MONTHLY MEETING,

FEBRUARY 7, 1838.

BY REV. ABEL G. DUNCAN,
Pastor of the Congregational Church in Hanover, Mass.

BOSTON:
MARSH, CAPEN & LYON.
1838.



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Boston, February 14, 1838.

DEAR SIR :—

At a meeting of the Council of the American Physiological Society, on Tuesday evening last, it was voted unanimously, that the thanks of the Society be presented to you, for your able and interesting address before us on Wednesday evening, February 7, and that you be requested to furnish a copy for the press.

Very respectfully,

Your obedient servant,

J. KILTON, *Rec. Sec'y.*

To Rev. A. G. DUNCAN, Boston.

Boston, February 15, 1838.

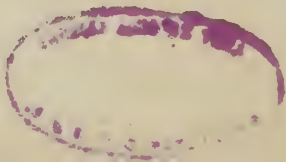
DEAR SIR :—

With great diffidence I comply with your request to publish the imperfect and hastily written address, which I had the honor to deliver before your Society on the 7th inst. A hope that it may, notwithstanding its defects, be the harbinger of good to some transgressor of organic law, has been the chief inducement to a compliance.

Yours with respect,

A. G. DUNCAN.

To J. KILTON, Esq., Boston.



A D D R E S S .

A spirit of excitement and activity is abroad in the land. While it is the prolific parent of many evils in every grade of society, it must be confessed that it is to be preferred to the state of stagnation and darkness, in which past generations lived. For amidst the evils produced by excitement and misdirected activity, intellect is awakened, invention is aroused, antiquated and venerated notions are examined, improvements in every department of life are devised, and advances are made, not merely in depths of luxury and vice, but also, in the upward path towards physical, intellectual and moral perfectibility. We need only refer to the astonishing improvements made in labor-saving machinery, in modes of travelling by sea and by land, and in the arts and sciences, to be convinced of the importance of excitement, although it be connected with great evils. The mind of man is too much under the dominion of the sensual part, and consequently too indolent and darkened, to hope much from aught but

excitement. What is to be expected from the general mass of intellect, unless it can be awakened to thought, as well as feeling? The foundations must be broken up, and the dead quickened into life. The American revolution did much for the world; and the operations of our free institutions are favorable to the brightest hopes of the philanthropist and Christian. The lowest ranks of society, under their benign influence, are in motion, and begin to feel their strength and capacity to rise. They are struggling under the mighty burdens, which have pressed upon them for ages, and, like a giant conscious of his power, will cast them off and take the rank which belongs to them in the scale of being. Are people alarmed in view of this? Their fears will not retard the upward movement of the heaving mass. Vain are all their attempts to keep it down. Riches cannot monopolize all privileges for a favored few. Knowledge is no longer confined to a small number, supposed to be born under a particular planet. But, like the sun, knowledge is shedding its enlivening influences upon the lowest, as well as the highest. The established habits of subserviency to superior rank, station and wealth; and of veneration for things because they are old; and of receiving opinions and dogmas upon trust; are passing away. People will look for themselves, and examine into the merits of individuals, and weigh the truth of opinions, and decide even upon doctrines, which have passed current for ages.

The great danger of all this is a tendency to the other extreme, a fondness for innovation, and for

things that are novel, for novelty's sake ; from an impatience of all restraint. Christianity, even, may be left to suffer from the fact that it is an ancient system, and, therefore, must be cast away. Do we not discover such a tendency in the community? There is a disposition, where it is seen that ancient and venerated institutions contain some wrong principles, and consequent corrupt practices, to bring every thing belonging to them, whether good or bad, under the verdict of reprobation: not only to slay the fathers, but to condemn the children also.

When the elements of society are in commotion, as at the present day, the friends of humanity must throw themselves into the foremost ranks of reform, and, if need be, must essay "to ride the whirlwind and direct the storm" of human passion, and conduct the perilled community into the sure paths of truth and morality. Among the cheering signs of the times, which throw a halo of promised good over the darkness of the age, the establishment of your Society, appears among the brightest. Physiology, under your fostering auspices, will stand, if last, yet not the least, among the benefactors of the present, aye, of future generations. During the short term of the existence of your Society, immense good has been accomplished, not merely among your own circles, but, also, in distant parts of the nation. Among the most eminent philanthropists, the Moral Reformer, who has so often instructed and delighted you, will stand conspicuous. Others are not behind him, in this cause of a long neglected science. The reforms, which a knowledge of it induces, are com-

mencing their onward progress. The many lectures which you have so generously contributed to maintain, and the multitude of facts, illustrative and demonstrative of the principles of physiological science, together with the valuable publications of the Society, cannot fail of accomplishing much to draw the attention of the community, at least of multitudes, to the all important subject of physiological reform. Indeed, a person can hardly enter a stage-coach, or steamboat, or railroad car, or sit down at the dining table of our hotels, without hearing some sage remarks concerning diet, the relative qualities of different kinds of food, and of different methods of living. All seem to be eager to express an opinion about these things, to show off the profundity of their wisdom, respecting that which has never, perhaps, occupied more than five minutes of time, devoted to serious and scientific investigation. The old lady of fourscore, down to the pert miss, the old man, down to the sapient school-boy, seem to be equally zealous in pronouncing, with cathedral authority, upon the claims of Grahamism and Physiology, and in drawing general deductions of universal application, from their modicum of experience.

Now there may be much in all this to excite the mirthfulness of some, or the sadness of others, and to hinder the progress of true science ; yet there is much also to occasion hope, and to urge to vigorous effort. For it indicates that the public mind is aroused, that the fallow ground is broken up, and that the seed time has come, when the sower can go forth to sow seeds, which shall yield a bountiful harvest.

But I leave these general remarks, and, in the first place, will relate some facts, which may serve as illustrations of physiological principles, and of that system of diet, which most of the members of this Society, if not all of them, believe to be fairly deducible from those principles.

Here it is proper to observe, that I appear before you at this time, rather as a learner reciting his lesson, than as a teacher. But I do it with the greater confidence, because as yet, all of us profess to be scholars, and not masters of the science of physiology. This science teaches us, that the human stomach, for instance, is a grand central point of influence and sympathy in our physical system. It is the fountain head that feeds the stream of life. When it is disturbed or destroyed, that stream is disturbed in all its meandering courses, or ceases to flow. It is the central furnace, at which fuel is applied for supplying the genial heat that warms and glows through the universal frame. Disturb the structure and action of the furnace, apply unsuitable fuel, and evil consequences are immediately experienced throughout the whole organic domain. You will pardon these figures, for I know that comparisons, which make the stomach a grist-mill, or a chemical laboratory, are incorrect, notwithstanding some points of analogy may exist between the stomach and these things. But one thing is certain, that, notwithstanding the human stomach can do much which would be labor for a grist-mill, and even puzzle a chemist to perform ; notwithstanding it possesses, in common with other organs of the body, a power of adaptation

to changes unfavorable to its highest physiological condition, and recuperative powers to repair damages, the stomach cannot do every thing. It cannot grind what a grist-mill absolutely cannot, and it will sometimes give information, in language of complaint not to be misunderstood, that its skill at chemistry is not equal to the dissolution of some articles submitted at fashionable dinners, to its process. Its powers of adaptation are not boundless, and injuries, perseveringly inflicted upon it, at the imperious demands of tyrannous appetite, cannot always be repaired.

These injuries may impair the stomach in two respects. First : By distention, which will weaken the muscular energy of the muscular coat. Secondly : By stimulation, which will accelerate the secretions of the mucous membrane, and exhaust its power by over action, and which will also derange the nervous ramifications leading to the stomach, and terminating in its coats. Too large quantities, even of suitable food, or food and drinks that possess highly stimulating properties, will more or less task the stomach, and consequently inflict an injury. It is true, as I before observed, that the stomach can bear, and do, and repair much, but not every thing. No person in theory, will deny this. But, in their own particular case, thousands listen to feeling and appetite, and so transgress.

Every tyro in physiology knows that an immediate connection exists between the stomach and the brain, the grand organ, according to most physiologists, of mental manifestation, and, according to others, the

organ, likewise, on which depends the manifestation of the moral feelings. What affects the stomach, affects the brain, and, consequently, the mind. Food and drinks of improper qualities, or quantities, must, as they injure the former, inflict evil upon the latter. Apply these observations, which must be familiar to you, to many of the prevailing habits of diet and regimen in the community, and you learn at once the origin of much of the disease, and suffering, and death among us.

I give some facts in illustration, and in doing it, shall make use of initials of my own selection, for obvious reasons.

1. A. was a student who was in the daily habit of excessive smoking. He loved it well, and might be found sometimes, lounging on his bed in the day time, with the pipe in his mouth. He was pale, nervous and irritable ; and manifested in his writings a wayward imagination, and in his conduct, an ambiguity and love of change, which begat suspicion and distrust and alienation on the part of his friends. To what can we attribute this, if not, in a great measure, to the effects of injuring his stomach, by the stimulus of tobacco? The love of this weed, nauseous to all living creatures but the tobacco-worm and man, amounts to a passion, which brings the mind into a bondage, almost as strong as death. Men will for a while, give up the quid for the snuff-box, or the pipe ; but to break off entirely and forever, is a victory, which but few have firmness of resolution sufficient to achieve.

2. B. was a mechanic, a shoe maker, eagerly bent on the accumulation of property. Under the excitement of his love of acquisition, he plied unremittingly his trade, worked early and late, with little or no exercise, and ate his food, with little or no mastication. He was strongly addicted to the excessive stimulation of tobacco smoking. At length, his stomach gave way to the abuses inflicted upon it. His nervous system became generally deranged and highly susceptible, his strength and appetite failed, and he suffered many deaths in expecting one. He gave up smoking altogether, and all business, and as he judged, daily grew worse. I saw him several times and one day he said that he must resort to smoking again. The doctor had given his consent. But why did he wish to resort to his pipe again? Because, as he contended, he was constantly filling up with phlegm or mucus. The bronchial passages were clogged, and nothing but a pipe, as he thought, would relieve him. By smoking, he was enabled to throw off the load which daily oppressed him. I have known several instances where relief was obtained in this way.

Several important questions may be raised in view of this case. Was the accumulation of mucus in the bronchia, occasioned by his former habit of smoking? If so, when he left off, did he not suffer, and his disorder generally increase in violence, in consequence of leaving off? Could he have adopted a course of remedies which would have obviated the difficulty so easily as by the pipe? My own opinion is, that he might, and I strongly urged on

him the importance of giving up the habit of smoking forever, and tried to show him what his case indicated on physiological principles. But in vain. His ignorance of that science, made it impossible for him to feel the force of my reasoning, and he suffered on.

3. C. boarded for some months in my family, and, during that time, was afflicted, as she had been for years, with violent attacks of periodical sick headache. She was in the daily use of strong coffee and tea. After much persuasion, argument and suffering, she was induced to relinquish these narcotic drinks, and to adopt for her beverage, cold water. The happy result of obedience to the voice of an outraged stomach and a disordered brain, was entire freedom from sick headache for three months. She then thought her cure complete, and ventured to partake, once more, of her favorite stimulus, a dish of coffee. Whereupon the penalty of transgression was immediately visited upon her with increased severity.

4. D. was also afflicted from childhood with this distressing disease, in an aggravated form. She had been constrained to give up the use of coffee and strong tea, but used, at her meals, hot water prepared to her taste. Still, the disease followed her with short intervals. Upon my advice, she was induced to make a trial of cold water, and did so with success. For two years, she enjoyed complete exemption from her complaint. After so long a time, she was enticed by a love of hot ginger tea, to transgress the rule of abstinence. But she was driven back

again in the path of obedience and safety, by an immediate infliction of the old penalty.

5. E. was habitually indulging in the use of strong coffee. I warned him of his danger, but appetite, and deference to his own feelings, made him turn a deaf ear to the voice of remonstrance. "Why," said he, "a good dish of coffee is equal to my breakfast, and without it, I could eat nothing." He persisted, and became consumptive and unable to attend to active business. I do not affirm, that his coffee was the sole cause of all the evil. But there can be no doubt in the mind of the physiologist, that, in connection with a too much excited brain, his coffee was a great cause of sympathetic irritation of the lungs, in consequence of its narcotic stimulus on the stomach directly, and on the brain indirectly.

6. F. was a laborious mechanic. Taking "Tea," as supper is fashionably called, one day at his house, my tumbler of cold water occasioned remark, and as is usual in such cases, conscience, I suppose, prompted an apology on his part, for the use of tea. "I have," said he, "at times a feeling of faintness, a dullness when I sit down, after ceasing to labor, a loss of appetite, and, frequently, I cannot eat, without taking a cup or two of tea. Then, appetite will revive and I can eat heartily, and my food seems to do me good." "My dear Sir," replied I, "your reasons for using tea, all unite in an argument for its entire disuse." "What! do you really think so?" said he. "Most certainly." And I told him some physiological truths, which carried conviction to his mind, and induced compliance with my advice.

Some months afterwards, he expressed his thankfulness for my plain dealing, and said that he was benefited in all respects.

One case more. G. was past the meridian of life, when I first knew her. She was inclined to indulge her appetite for solid food. Fat meats were her favorite food, she took her luncheons, and her hot narcotic drinks, particularly tea. She complained of a very bad feeling in her head. She was thought to be religiously inclined, but indulged no hope for herself. Indeed, she supposed that she had committed the unpardonable sin, and, therefore, that her perdition was certain. The reason, which she gave for such a preposterous opinion, was, that she was continually tormented with the most horrid, blasphemous thoughts, which crowded into her mind uncalled for, and with irresistible power. This induced a despairing state of feeling, although some of her friends tried to persuade her that such thoughts were the suggestions of the devil, and ought not to be regarded as any thing else. Now, they might have been so, but one thing is certain, that if they were, the adversary took advantage of the most palpable transgressions of physiological laws. At least it is more philosophical, to attribute her involuntary and blasphemous thoughts to the latter cause. Transgression of these laws was evidently the case. For circumstances, connected with a tendency to a scirrhus or cancerous habit, led her to renounce entirely the use of meat, and butter, and hot drinks, and to adopt a farinaceous and vegetable diet. She had not followed the new system many weeks, im-

perfect and faulty in many respects, as it was, before she was blessed with the happy fruits, even of partial obedience. She was relieved, in a great measure, both from her disorder in the head, and from the horrid thoughts, with which she had been afflicted. She became cheerful, and the ponderous load which weighed upon her mind, seemed to be growing lighter. Other causes, besides a manifestly erroneous diet, might have been united, and probably did unite with it, being, doubtless, occasioned by it, to produce the evils which afflicted her. But no one, I think, can avoid the conclusion, that a knowledge of physiology would, at once, have let this lady and her friends into the secret of her difficulties.

Other facts might be given, but I waive them. The facts already adduced, illustrate the remarks which I made in respect to the stomach, as well as other physiological truths, and the importance of a system of diet, based on sound physiology. But I must leave their application and the inferences derived from them to your own reflections.

Since I have chosen the physiology of the stomach, in part, for the subject to be chiefly illustrated by the facts brought to view, you will permit me to make a few observations on the evils of

EXCESSIVE ALIMENTATION.

What I shall say, may be very familiar. But, as excessive alimentation is the rock on which thousands are wrecked every year, and, I may say every month; and as it is the grand temptation of all who

have escaped the thralldom of pernicious habits, and whose gustatory pleasures are proportionately enhanced; you will pardon me for stirring up your minds by way of remembrance. I am confident, that redemption, in many cases, is turned into a curse, in consequence of excessive eating. Excess arises from several causes. In the first place, the stomach craving its accustomed stimulating food, the demand is answered by additional quantities, which possess little or no stimulation, but, at the same time, have much more solid nutriment. Then, again, former habits of distending the stomach, seem to create the necessity of a certain bulk, irrespective of the quantity of nutrient principles, which it contains. The appetite exceeds the actual demands of the system. Too great a variety, also, may be allowed at one meal. A person looks at his frugal meal of one or two dishes, and feels dissatisfied, and calls for more. Or, at least, the cook seems instinctively to understand the feeling, although, it may not be expressed. Moreover, appetite, which, in the highest physiological condition of mankind, as in the very first ages of creation, might be a safe guide, in civil life is not, even in the redeemed person, a proper criterion of judgment, in respect to quantity. The appetite becomes keen, uniform, and, in a measure, natural. But, though natural, it does not, and cannot determine the precise quantity of nutriment, proper to be taken into the stomach at any one meal. The quantity depends on many conditions, which are constantly changing, according to the physiological condition and habitude of the

whole man, also, upon the kind and quality of the article selected for ingestion. Freedom, therefore, from captivity, with ignorance, or temerity, or a domineering appetite for a guide, may become a tremendous evil : not in itself, but by abuse. We see this remark illustrated in the case of many pseudo-Grahamites, as they are styled in common parlance. We ought not, however, to decide that freedom is an evil, and that slavery is a blessing. This would be a false conclusion. But our endeavors should be directed to the enlightenment of freedom in the path of knowledge and obedience, which shineth more and more, unto the perfect day.

The evils are many which result from excessive alimentation. It tasks the powers of the stomach beyond their capacity ; weakens and impairs its tone of muscular contraction, of gastric secretion and nervous energy. It breaks up the circle of physiological action, which should be constantly going on in the organic domain, by keeping the determining powers too much to the stomach. Thereby the harmony which exists between the different functions of the system is disturbed. Alimentation exceeds a proper assimilation and elimination. The excess must be disposed of in some way ; and a new labor is imposed on the functions of secretion, or else, upon the vascular system. If upon the latter, the blood vessels, owing to imperfect chylification, consequent on defective chymification, become enlarged, from plethora ; their muscular coats are weakened ; and the circulation becomes unequal and languid. Aneurisms, perhaps, take place, which are dilations

of certain parts, frequently near the heart, which are liable, from many causes, suddenly to burst and to disgorge the blood into the neighboring cavities. Death immediately ensues. Or else, the blood deposits, in its own channels, earthy matter, especially on the valves, which arrest its retrograde motions. These deposits are sometimes made upon the valves of the great pump of the system—the heart. They become, at length, entirely ossified, which immediately arrests the movements of that organ, so indispensable to our present existence. The blood, in some instances, rushes with peculiar power to the brain, and crowds its voluminous arteries, and presses on the nervous mass. Headache dizziness, dulness, epilepsy, swooning and apoplexy, may, and do often result from this fact. Inflammations and fevers may often be directly traced to excessive eating, as are most of the cases of sudden death, which, of late years, are of such frequent occurrence. Men and women engage in their daily business, or commit themselves to the unconscious repose of sleep, and are suddenly and without warning, hurried into the scenes of eternity.

If the burden falls upon the functions of secretion, in the case of excessive alimentation, they are doomed to suffer the penalty of transgression. In all such cases, the first law of digestion is generally neglected, or imperfectly obeyed. Mastication is not thoroughly secured, consequently the salival secretions are deficient, and the food is not suitably prepared for the stomach. The duties of the teeth are transferred to the stomach. The gastric secre-

tion, of course, is not perfectly adapted to the ingestion, and is rendered less so by the quantity of food which is taken. Irritation, consequently, takes place in that organ, by the too long continuance of the food and frequently, fermentation, which produces what is called heart-burn, sour stomach, and also eructations, occasioned by the gas which escapes. If the gas cannot escape, owing to the contraction of the inferior portion of the œsophagus or gullet, its expansion occasions severe pain in the stomach.

But the powers of the stomach may remain in a great measure unimpaired, the chymification all that is desirable, and the dissolved mass be gradually introduced into the duodenum, where the process of chylication chiefly takes place. Here a difficulty may arise from the fact, that excessive alimentation has disturbed the necessary secretions of the pancreatic juice and of the bile. The chyle, in consequence, may be unfitted, though increased in quantity, to produce blood of a suitable character for the purposes of organic life.

The excess, above what is properly assimilated or eliminated, may be disposed of in various ways among the different functions of secretions, and the task of disposition not unfrequently falls to some weaker class. In general, some particular class will be charged with the business, according to the nature of what remains beyond the proper demands of the system. Perhaps, the aqueous secretions predominate, which disposes the system to dropsies. Perhaps, the oleaginous secretions assume the work, which gives a tendency to excessive corpulency.

Or, the mucous secretions are called into increased activity, when colds, catarrhs, consumption, &c., may often be the result. Or the cutaneous secretions may come in for a share, when the long train of diseases of the skin, hasten to relieve the oppressed system. Or the renal secretions may be burdened, and gravel and the stone, or diabetes, be the result. These are not dreams of the imagination, put down for the occasion. Would that they were. But they are sober realities, as physiology will demonstrate. They are, in truth, only the beginning of evils which follow in the train of excessive alimentation. Where an individual of the human family dies from the absolute deprivation of necessary food, tens of hundreds fall victims to excess. Alcohol slays its thousands, but excessive alimentation, in its various forms, its tens of thousands.

But if the evils terminated their devastations in the organic system, we might rejoice, even amidst all the suffering, and woes, and death of mankind, in view of the fact, that the immortal spirit was free to rise, in the exercise of its godlike powers, in the scale of intelligence, morality and piety, to perfection of conformity to its glorious Creator. But alas! the mind, the immortal spirit being dependent, in the present mode of its existence, on the body, excessive alimentation is followed by many evils which are inflicted upon the soul. The soul cannot shake off her partnership in the well-being or woes of the body. If the body suffers, the soul, whether we are conscious of it or not, suffers with it. The highest physiological condition of the body, is absolutely

necessary to the highest interests of the immortal inhabitant.

Excessive alimentation injures the soul, because it injures the nervous system. The faculties, also, which hold a physiological relation to the stomach, are excited into undue activity, and acquire the mastery of the mind, to bring it into grovelling subserviency to appetite, to be invaded, also, by unhallowed passions, which degrade the soul. Moral susceptibility is blunted, intellectual aptitude paralysed, and the man loses the semblance of the rational intelligences above him, in an increasing likeness to the sensual brute. Lasciviousness, in all its hideous forms, melancholy, imbecility of will, a tendency to suicide, fatuity, idiocy and even insanity, may, in many cases, be traced to the evils of excessive alimentation.

I do not affirm that any *Grahamite* is visited with such a penalty. It is reserved, in its fulness, for those who add to excessive alimentation, the transgression of other laws of digestion. But the *Grahamite*, with all others, in view of the many evils partially enumerated and imperfectly described in this address, has reason to reflect, with increased attention to the study of physiological truth, on the importance of rigid simplicity and moderation. The appetite, pure and keen in his case, may entice to transgression. If the temptation succeed, and transgression is persisted in, not even a *Grahamite* will escape. Exercise may do much, daily ablution may do much, the flesh-brush and a vegetable plain diet may do much, to obviate present inconvenience,

and to put off the evil day. But the transgressor may not hope to escape the sure retribution of violated law. Multitudes, who are not Grahamites, and many, who are, because they can put it off for awhile, are willing to run the hazard of future suffering, for the sake of present indulgence. Appetite stifles the voice of reason and conscience.

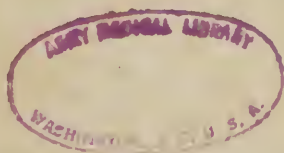
What shall be done for the rescue of such persons? I answer, that, for their sakes, and for the sake of a suffering world, the claims of physiology must be placed on moral grounds. The various laws of physiology must be recognized as belonging to the natural and providential government of God, who works all things after the counsel of His own will. That is, in maintaining and controlling all the laws of nature, as they have been called, or as they should be styled, the laws of God's natural government. All these laws, requiring voluntary action on our part, must be inculcated as involving moral obligation, arising from the nature and relation of things. These laws, so far as they involve choice, are as much moral as natural laws, and obedience to them, or disobedience, goes to form our moral character, as much as do those laws which are generally termed moral laws. Indeed, we cannot obey what are called moral laws, without obeying many of the natural laws of God's government. The study of physiology, then, is absolutely essential to the perfection of the Christian character. I do not deny that millions, without this science, have been comparatively eminent for their exhibition of Christianity. But these persons were practically obedient to many of the

laws of physiology, because they felt the force of obligation to obey many precepts of the Bible, that evidently recognize those natural laws which physiology plainly inculcates. But no one, who has bestowed attention to this subject, can avoid the conclusion, that a knowledge of the natural laws of God and obedience to them, will make Christians in future times surpass former generations, in an unspeakable degree. Their health shall spring forth speedily. Their days shall be prolonged in the land. There are many passages of Scripture, which plainly teach that glorious prospects await the race of man on the earth. What will usher in the transcendent glories of the promised golden age? The Christian answers, *The Gospel*, rendered effectual by the Holy Spirit. But the way of the Lord must be prepared before the face of the people. It is to be cast up, and the stumbling blocks are to be removed. What is to accomplish this? I am confident that nothing, short of a general knowledge of the constitution of things revealed by the natural laws of God. Here is the foundation of moral obligation, which can be felt by the feet turned into the testimonies of God. It is immoveable, and universal as the race, and uniform as the perfections and the character of the Most High. Hence, the importance of physiology when pursued with a faithful guide and a right spirit. For physiology, in its widest signification, is a study and development of God's laws, by which He governs the universe of living things and living creatures. In a restricted sense,

it teaches the laws which govern man, considered as an organized, sentient, intellectual and moral being.

Let, then, the science of Physiology be rightly and zealously inculcated, and intellect will be enlightened, and conscience aroused. Moral obligation will be perceived, reflected on, and felt. Appetite and passion would succumb to the mighty motives which are addressed to the moral susceptibilities. Truth would prevail. The propensities of the mind, which hold a physiological relation to the organic domain, would act, also, in their spiritual relations to the higher sentiments. Reforms would be effected with comparative ease. Christianity would not appear to be that weak, and fitful and eccentric principle, which is now exhibited by vastly too many of the professed followers of the Lamb. It will rise into a fixed, beautiful and harmonious exhibition of obedience to truth and law, as the mandate of heaven.

I would not be misapprehended. I would not depreciate, or value less highly, the plain inculcation of Gospel truth. I believe the Gospel to be in perfect accordance with the revelations of God in the volume of nature, and that every exhibition of it, which contradicts those ascertained revelations, to be a false exhibition, and proportionately injurious, as implicitly followed. But I would exalt the science of Physiology more, believing that as its truths or laws are fully developed, they will be found to harmonize with all the doctrines and duties of the Bible ; believing also, that all those alleged facts of Physiology, which seem to conflict with the real



teachings of the Bible, need revision, and will be found to be prematurely deduced.

But I have too long trespassed on your patience. If, in reciting my lesson, you have perceived any errors, mark them, and by your superior knowledge, correct them. If I have only brought to view ideas which you recognize as old friends, you will not, of course, reject them. If I have succeeded in advancing one thought, new to any person present, or if I have made a suggestion, even, which will lead to a new idea, I shall be amply rewarded for the little time that I have devoted to preparing the present address.

Finally. Let the members of this Society be encouraged by their past success, and animated to greater efforts, by the well-grounded hopes of more glorious achievements in the field of moral and physiological reform. Burdened, suffering and dying millions utter forth their piercing cry for help. Struggling and despised Christianity lifts up her majestic voice for aid. Rush then to the rescue, and great will be your reward.

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